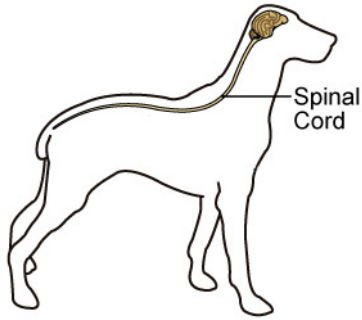


# Wobbler Syndrome in Dogs



The term “wobbler” originated from a spinal disease of horses that causes incoordination while walking. The canine version is more appropriately known as *Caudal Cervical Spondylomyelopathy* or *Cervical Vertebral Instability* or various other similar names. It results in a wobbly gait when walking or running due to pressure on the spinal cord in the lower part of the neck.

## Prevalence

Great Danes and Doberman pinchers are the commonly affected breeds, but any large breed is at risk for this disorder. Basset Hounds, Old English Sheepdogs, St Bernards, Borzois and Pointers are also commonly affected. Great Danes are usually

affected when they are young, about 1-3 years of age. Doberman pinchers and other breeds are typically 6-9 years of age when the symptoms begin. Slightly more males than females are affected.

## Causes/Transmission

The exact cause of this disorder is unknown, but genetics and spinal deformities are contributing factors. Regardless of the cause, the end result is that bones and/or ligaments in the neck develop malformations that lead to narrowing of the spinal canal and compression of the spinal cord. Compression of the nerves in the spinal cord causes loss of function, and then possible permanent damage if it is severe enough or goes on long enough.

In Great Danes, the spinal canal is thought to actually narrow due to bony malformations of the backbones in the neck. In Dobermans, Wobbler Syndrome is thought to result from instability between two or more vertebrae in the lower part of the neck. When instability exists, the body attempts to correct the problem, by thickening of the ligaments within the back. One such ligament is above the spinal cord and two are below it. As these ligaments thicken, they put pressure on the spinal cord. Also, a intervertebral disks which normally provide cushion between the back bones may put pressure on the spinal cord if they shift or rupture, adding further compression.

The spinal cord is much like a large telephone cable that contains thousands of wires, each carrying important messages. When the telephone cable is crushed, the tiny wires within are broken so they cannot transmit information. A similar event occurs when the spinal cord is compressed by the thickened ligaments, bony protrusions from the vertebrae, or a disk. They are unable to carry messages from the brain to the nerves in the legs, so the legs cannot move as they should, or in the most severe cases, cannot move at all.

## Clinical Signs

The pressure on the spinal cord from the thickened ligaments causes the dog to walk in a very uncoordinated fashion. Although the spinal cord compression occurs in the neck, the hind legs often are affected first. Many of these dogs are initially seen to stumble. This progresses to “wobbling” in the hind limbs, and then if it continues, paralysis can develop in all 4 legs. The owner may hear the dog drag the toenails of the rear legs or note that the surfaces of the toenails are excessively worn. Eventually, this dragging motion becomes more apparent. There may be rigidity or a spastic tone to the legs and/or flaccid weakness in the front legs. Interestingly, neck pain is not typical of this disorder.

In most cases, the deterioration is slowly progressive. Rarely, an acute (sudden) trauma may lead to rapid deterioration of neurologic function. When there is a sudden decompensation of the animal, a ruptured disk is most likely.

## Diagnosis

Radiographs (x-rays) of the neck often reveal that the cervical vertebrae are not properly aligned and/or not the right shape and size. If the dog is the right breed and the symptoms are correct, this provides

strong evidence of the wobblers syndrome. However, plain radiographs do not show the spinal cord so the presence of pressure on it cannot be proven in this manner. In those cases, an MRI and/or CT Scan performed by a veterinary specialist may be required to make the diagnosis. In 30-50% of cases, more than one lower disk space are affected. Occasionally, a myelogram is also needed (dye is injected into the spinal canal and x-rays taken in various positions).

## **Treatment**

Anti-inflammatory drugs and pain relievers are often prescribed in the early stages of this disease. They may provide some relief from the symptoms, but this improvement is often only temporary. As the disease progresses, medication will no longer be helpful. Special precautions must be taken when pain relievers and anti-inflammatory medications are given to Doberman Pinschers as there is a very high incidence of inherited bleeding disorders in this breed; some medications may precipitate bleeding.

Successful treatment requires that the pressure be removed from the spinal cord. In some dogs, a specially fashioned neck brace can be helpful in limiting motion in the neck. This can be helpful for a while. However, many dogs eventually progress to the point that surgical intervention is required. There are several surgical procedures that have been used, but none have been successful in all cases. The findings on the MRI are used to determine the surgical procedure that is most likely to be helpful.

## **Post-operative Care**

The degree of surgical after care will depend on the dog's ability to walk at the time it goes home from the hospital. If it can walk, but it is uncoordinated, it will need assistance so that a fall does not occur. Patients with neck problems can be badly injured if they are allowed to fall on their nose. In any case, a dog that has Wobbler's Surgery should not be allowed to go up or down stairs for at least 1 month, and often longer, as your veterinarian will advise. If the dog is still paralyzed at the time of discharge after surgery, the amount of after care can be considerable because of the dog's weight. According to one study, 17% of patients can worsen for 2 days after surgery, before they begin to improve. If you are not able to lift your dog and you do not have someone else who can help you do so, you should discuss this situation before you opt for surgery. In all cases, post-surgical physical therapy is crucial to recovery, and should be started during the first week after surgery. It can take up to 2-3 months or more after surgery for a dog to begin to walk again, and up to 6-12 months for optimal results to occur.

## **Prognosis**

Regardless of the treatment option chosen, the overall prognosis is guarded for dogs with Wobbler Syndrome. Most successful outcomes require that the pressure be surgically removed from the spinal cord and some type of stabilization of the vertebrae performed. If surgery is performed at the time of mild incoordination, surgical success is much better than if paralysis has already occurred in all four legs. Improved surgical techniques have improved successful surgical outcomes to 50-80%. There is a calculation that can be done using the MRI images, called the Vertebral Canal Compromise Ratio (VCCR). The more abnormal the VCCR, the less likely the dog affected by Wobbler's Syndrome will walk again after surgery.

It is possible for the condition to recur at a later date. However, with modern surgical techniques, this is not common and most pets enjoy a relatively normal lifestyle following surgery.

## **References:**

Ernest Ward, DVM – Lifelearn Client Information Handouts

HomeCare Client Information Handouts

Wendy Blount, DVM – PracticalVetMed Seminars

Linda Shell, DVM ACVIM (Neurology) and Elizabeth Katherman DVM ACVIM (Neurology) – VINCyclopedia – Cervical Vertebral Instability

De Decker S, da Costa RC, Volk HA, Van Ham LML: Current insights and controversies in the pathogenesis and diagnosis of disc-associated cervical spondylomyelopathy. *Vet Rec* 2012 Vol 171 (21) pp. 531-7.

Curtis Dewey, ACVIM (Neurology), Ronaldo C de Costa. *Practical Guide to Canine and Feline Neurology*, 3<sup>rd</sup> ed. 2016.